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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,086	05/31/2001	Ari P. Heikkinen	456-010392-US(PAR)	9314
2512	7590	09/29/2005	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			VO, HUYEN X	
			ART UNIT	PAPER NUMBER
			2655	

DATE MAILED: 09/29/2005

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/871,086  
Filing Date: May 31, 2001  
Appellant(s): HEIKKINEN, ARI P.

Mr. Geza C. Ziegler, Jr.  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 6/1/2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5517595	Kleijn	5-1996
6266637	Donovan et al.	7-2001
6223151	Kleijn	4-2001

Daniel W. Griffin and Jae S. Lim "Multiband Excitation Vocoder" IEEE Transactions on Acoustics, Speech, and Signal Processing, Vol. 36, No. 8; 8/1998, pages 1223-1235.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-2 and 8-14 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Kleijn (US 6223151) in view of Griffin (IEEE Publication). This rejection is set forth in a prior Office Action, mailed on 9/30/2004.
2. Claims 3-5 and 7 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Kleijn (US 6223151) in view of Griffin (IEEE Publication, incorporated

by reference), and further in view of Kleijn (US 5517595). This rejection is set forth in a prior Office Action, mailed on 9/30/2004.

3. Claims 15-18 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Kleijn (US 6223151) in view of Griffin (IEEE Publication, incorporated by reference), and further in view of Kleijn (US 5517595). This rejection is set forth in a prior Office Action, mailed on 9/30/2004.

4. Claim 6 stands finally rejected under U.S.C. 103(a) as being unpatentable over Kleijn (US 6223151) in view of Griffin (IEEE Publication, incorporated by reference), and further in view Donovan 6,266,637). This rejection is set forth in a prior Office Action, mailed on 9/30/2004.

#### **(10) Response to Argument**

5. Applicant argues to traverse prior art rejection based on an argument regarding *"it is emphasized that, in the teaching of Griffin which is relied upon by the examiner in the rejection of the claims, the coding method of the audio signal amplitude is not affected by the voicing parameter. On the contrary, the voicing parameter affects the number of bits used for expressing the signal amplitude and phase before coding. This teaching of Griffin contradicts the amendatory passages added in the previous*

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*response*" (page 8, 2<sup>nd</sup> paragraph). Applicant's argument has been fully considered but it is not persuasive. The Griffin reference fully anticipates the limitation regarding *"deciding the encoding method based on at least one determined voicing parameter"* (referring to independent claims) in that received audio frames are undergone processing and analysis to determine whether they contain voiced data or un-voiced data, and the system encodes the audio frames based on the determined voiced/unvoiced decision (*page 1231, lines 1-11, different number of bits are assigned to the audio segment based on the voice/un-voice information*). This teaching does not contradict with the claimed limitation mentioned above because the applicant's disclosure does not specifically disclose two different and separate encoding schemes, one for encoding voiced frames and the other for encoding unvoiced frames. Rather, the applicant's disclosure only discusses a commonly known LPC coder for coding both voiced and unvoiced data. Thus, the examiner interprets the step of *"deciding the encoding method based on at least one determined voicing parameter"* as a conventional coding scheme that unevenly assigns different number of bits to a particular audio frame based on the voiced and unvoiced information as taught by Griffin.

6. Applicant argues to traverse prior art rejection based on a limitation regarding *"modifying the formulated signal using the periodicity estimate such that the periodicity is improved"* (page 8, 3<sup>rd</sup> paragraph), while arguing that Kleijn (US 6223151) *"describes a number of mathematical processes performed for analyzing the signal, but provide no*

*teaching of manipulating a signal to accomplish a "modifying of a signal"* (page 10, 3<sup>rd</sup> paragraph). Examiner relied upon Kleijn (US 6223151) for the teaching of the step of modifying the input signal by first determining pitch period estimates and then performing signal modification on the pitch period estimates such that the pitch period estimates is refined or improved (*Kleijn '151; the operation of figure 2 and particularly col. 5, lines 31-36*). And the step of adding and removing pitch cycles is considered as signal modification (*col. 5, line 56 to col. 6, line 7*).

7. Applicant argues to traverse prior art rejection based on arguments regarding *"there is no teaching in Griffin of coding based on a voicing parameter"* (page 9, 2<sup>nd</sup> paragraph), and *"The present invention, as set forth in the claims, includes the aforementioned modification of a signal to attain improved periodicity, the decision making of the voicing parameter, and the choosing of the encoding method according to the voicing parameter"* (page 9, 3<sup>rd</sup> paragraph). First, it is noted that the claims do not recite "choosing the encoding method", but merely deciding the encoding method. Applicant's disclosure does not show two different encoding methods in order to interpret the step of *"deciding the encoding method"* as choosing the encoding method as argued. In contrast, the applicant's disclosure only discusses a commonly known LPC coder. Thus, the examiner interprets the step of *"deciding the encoding method based on at least one determined voicing parameter"* as a switch of encoding operation within a single encoder, such as assigning different number of bits to the audio frame based on the voiced/unvoiced information. And Griffin teaches the step of determining

whether the audio segment contains voiced or un-voiced information and encodes the audio segment based on said voiced and un-voiced information (*page 1231, lines 1-11, different number of bits are assigned to the audio segment based on the voice/un-voice information*).

8. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Conferees:

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